



State of Idaho

**COPY**

**DEPARTMENT OF WATER RESOURCES**

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DIRK KEMPTHORNE  
Governor

KARL J. DREHER  
Director

August 12, 2005

BOB DUKE  
WATERMASTER, WATER DISTRICT NO. 34  
PO BOX 53  
MACKAY, ID 83251-0053

**Re: Letter Faxed to IDWR on July 28<sup>th</sup>, 2005**

Bob,

This letter responds to your letter faxed to the Idaho Department of Water Resources (IDWR) on July 28, 2005. Your letter requested that IDWR recognize additional recharge to satisfy mitigation requirements in the Big Lost River Basin. Specifically, you seek recharge credit for surface water diverted into the canal systems during the first few weeks of the irrigation season when many users may not have put that water to beneficial use. IDWR recognizes that the rains this spring reduced the demand for irrigation deliveries and allowed diversion of surface water for recharge. Certainly, the aquifer benefited from natural recharge, reduced pumping demands, and managed recharge efforts. However, the Basin 34 Recharge Plan of Operation governs the quantity of water that IDWR can credit as recharge under the recharge permits 34-7571, and 34-7573 (Plan of Operation).

As stated in a letter to you from IDWR dated July 20, 2005, IDWR followed procedures in the Basin 34 Recharge Plan of Operation for permits 34-7571 and 34-7573 to determine dates when recharge was permissible. In accordance with the Plan of Operation, the earliest date during the 2005 irrigation season that recharge could occur was May 25 above the reservoir, and May 22 below the reservoir. As noted in the July 20<sup>th</sup> letter, our calculations for the amount of recharge after the start dates listed above account for applicable head gate deliveries.

With your letter, you sent water delivery information about deliveries to Jay Jensen, L. Vaughn Jensen, and Jared Ashton. Jensens and Ashton receive their surface water through the Westside Canal. The records submitted show that Jensens and Ashton did not accept water until the 18<sup>th</sup> of June. However, other users on the Westside Canal had been taking water since about the 17<sup>th</sup> of May. IDWR calculations for recharge within the allowable recharge period gave recharge credit for the difference between the canal head gate delivery and the field head gate deliveries using records provided by the ditch riders. Because of this, excess water delivered down the Westside that might have otherwise been re-diverted by the Jensens or Mr. Ashton had they needed it, was credited toward recharge.

IDWR tried to determine recharge credit based on the available information and in accordance with the water right permits and the Plan of Operations. IDWR staff struggled with calculation of recharge in Water District 34 because water diverted for recharge generally is not directly measured. The water district has not documented canal seepage losses in 2005 or prior years. The 30 percent average seepage loss reported by the district for 2005 and prior years may be reasonable, but is not supported by any measurements or other documentation.

As stated before, IDWR granted recharge credit for the entire difference between the quantity of water diverted at the various canal headings and the quantity of water delivered to users of water at the field headgate within the authorized recharge period. Nonetheless, credit for recharge should only be

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recognized for the quantity of water delivered in excess of what is necessary to deliver the water rights being called for. IDWR was too liberal in crediting all of the delivery losses to recharge. In future years, IDWR will not recognize all the percolation in the delivery canals as recharge, but only the percolation in excess of normal deliveries. Separating normal percolation from recharge percolation will require careful monitoring of diversions and deliveries.

IDWR received some anecdotal information that surface water delivered to some water users for irrigation at the field headgate were actually used for recharge. The information also suggests that some of the surface water delivered flowed back into the Big Lost River. Seepage in excess of the quantity necessary to deliver the water rights in use can receive recharge credit. These losses must be documented. Water not seeping into the ground and flowing back to the Big Lost River is not recharge.

Department staff also looked at additional data to calculate recharge credit after June 26, 2005. This was based in part on some of the data that you faxed to Steve Burrell on July 13, 2005. IDWR determined that the recharge period below the reservoir could extend through July 9<sup>th</sup> since flows at the 2B gage, adjusted for storage, exceeded canal heading irrigation deliveries by 300 cfs or more as required by the Plan of Operation. IDWR also determined that the recharge period above the reservoir extended through July 13<sup>th</sup> because some priority rights were not deliverable after this date. It should be noted that these periods extend four to seven days beyond the last day of data that you provided to the Department for site-specific recharge sites. IDWR used data from the water right accounting program in determining the recharge periods. IDWR assumed an average canal seepage loss of 30 percent when calculating recharge both above and below the reservoir. Field head gate deliveries were not analyzed to determine canal seepage loss for these latter periods. The additional recharge calculated by IDWR both above and below the reservoir from June 27<sup>th</sup> through July 13<sup>th</sup> is 8,174 acre-feet. The total calculated volume for mitigation from recharge for this period is 1,063 acre-feet. The total cumulative volume for mitigation from recharge for the season is 3,623 acre-feet. Based on these calculations, the water district must still provide 410 acre-feet of mitigation for the second semester period (July 23 through October 15).

Sincerely,

A handwritten signature in dark ink, appearing to read "Timberlake for", written over the printed name Gary Spackman.

Gary Spackman

Encl: WD 34 2005 file

cc: IDWR Eastern Region – Idaho Falls  
Mitchell Sorenson – Arco (w/o attch)  
Loy Pehrson – Mackay (w/o attch)  
Big Lost River Irrigation District – PO Box 205, Mackay 83251 (w/o attch)  
Richard Reynolds – 2800 N 3233 West, Arco 83213 (w/o attch)  
Darrell McDonald – PO Box 102, Arco 83213-0102 (w/o attch)